What is claimed is:

SUB B7

1. A transceiver circuit of a network node for converting a signal received from a transmission medium to a decoded signal that can be recognised by a higher layer and transmitting packets received from said higher layer to said transmission medium, characterised by:

selector circuitry; and

control circuitry for controlling the selector circuitry for supplying the decoded signal to said higher layer and supplying, instead of said decoded signal, an idle signal to said higher layer for a predefined time interval which starts at the end timing of a packet transmitted from said higher layer to said transmission medium, said idle signal indicating that the network node is in an idle state.

2. The transceiver circuit of claim 1, characterised in that said control circuitry is responsive to end of said predefined time interval for supplying said decoded signal to said higher layer, instead of said simulated idle signal.

3. The transceiver circuit of claim 1 ~~or 2~~, characterised in that said predefined time interval is equal to a turnaround time of said transmission medium.

4. The transceiver circuit of claim 1~~, 2 or 3~~, characterised in that said control circuitry is configured to detect a data end message as an indication of the end of transmission of said packet.

5. The transceiver circuit of claim 1~~, 2, 3 or 4~~, characterised in that said transmission medium is a serial bus and that a serial to parallel converter

is provided for converting a signal from said serial bus to a parallel signal and a decoder for converting the parallel signal to said decoded signal.

6. The transceiver circuit of claim 5, characterised in that said serial to parallel converter is connected to said serial bus via an IEEE-1394 interface.

7. The transceiver circuit of claim 3~~, 4, 5 or 6~~, characterised in that said control circuitry comprises:

a start-of-child-notify detector for detecting the start timing of a child-notify signal from said higher layer which is transmitted from the network node to a child node as a response to a signal from the child node;

an end-of-parent-notify detector for detecting the end timing of a parent-notify signal received from said child node;

first counter circuitry for incrementing a first count value in response to the detection of the start timing of said child-notify signal by the start-of-child-notify detector until said end-of-parent-notify detector detects the end timing of said parent-notify signal; and

comparator circuitry for comparing said first count value with a second count value which corresponds to said predefined time interval and controlling said selector circuitry according to relative values of said first count value to said second count value.

8. The transceiver circuit of claim 7, characterised in that said comparator circuitry comprises:

an end-of-data-end detector for detecting the end timing of a data-end signal transmitted from said higher layer to said transmission medium; and

second counter circuitry for incrementing a second count value in

response to the detection of the end timing of said data-end signal by the end-of-data-end detector until the second count value equals the incremented first count value and controlling said selector circuitry for supplying said idle signal to said higher layer for an interval during which said second counter circuitry continues to increment said second count value.

9. A communication system formed by a plurality of nodes interconnected by transmission lines, characterised in that each of said nodes includes the transceiver circuit as claimed in claim 1 ~~any one of claims 1 to 8~~.

10. A communication method for a network node for converting a signal received from a transmission medium to a decoded signal that can be recognised by a higher layer and transmitting packets received from said higher layer to said transmission medium, characterised by the steps of:

supplying, instead of said decoded signal, an idle signal to said higher layer for a predefined time interval which starts at the end timing of a packet transmitted from said higher layer to said transmission medium, said idle signal indicating that the network node is in an idle state; and

supplying the decoded signal to said higher layer, instead of said idle signal, at the end timing of said predefined time interval.

11. The method of claim 10, characterised in that said predefined time interval is equal to a turnaround time between said network node and a node connected to a distant end of said transmission medium.

12. A recording medium for recording a control program for describing the operation of a network node which converts a signal received from a

transmission medium to a decoded signal that can be recognised by a higher layer and transmits packets received from said higher layer to said transmission medium, characterised in that said control program contains the steps of: supplying, instead of said decoded signal, an idle signal to said higher layer for a predefined time interval which starts at the end timing of a packet transmitted from said higher layer to said transmission medium, said idle signal indicating that the network node is in an idle state; and supplying the decoded signal to said higher layer, instead of said idle signal, at the end timing of said predefined time interval.

13. The recording medium of claim 12, characterised in that said predefined time interval is equal to a turnaround time between said network node and a node connected to a distant end of said transmission medium.

14. A communication method for a network node attached to a serial bus, the method comprising the steps of:

setting a state machine in a receive mode;

exchanging signals between the network node and a remote node attached to a distant end of the bus and determining therefrom a turnaround time between said nodes; and

setting the state machine in an idle mode for an interval beginning with an end timing of a packet transmitted from the node to said bus until said interval corresponds to the turnaround time.

15. A communication method for a network node attached to a serial bus, the method comprising the steps of:

setting a state machine in a receive mode;

incrementing a count value beginning with a start timing of a child notify signal transmitted from the node to said bus and terminating the increment of the count value at an end timing of a parent notify signal received by the node from said bus; and

setting the state machine in an idle mode for an interval beginning with an end timing of a packet transmitted from the node to said bus until said interval corresponds to the incremented count value.

16. A network node attached to a serial bus, comprising:

first circuitry for exchanging signals between the network node and a remote node attached to a distant end of the bus and determining therefrom a turnaround time between said nodes; and

second circuitry for supplying a signal received from the serial bus to a higher layer and supplying, instead of said received signal, an idle signal to said higher layer for an interval beginning with an end timing of a packet transmitted from said higher layer to said bus until said interval corresponds to the turnaround time, said idle signal indicating that the network node is in an idle state.

17. A network node attached to a serial bus, comprising:

first circuitry for incrementing a count value beginning with a start timing of a child notify signal transmitted from the node to said bus and terminating the increment of the count value at an end timing of a parent notify signal received by the node from said bus; and

second circuitry for supplying a signal received from the serial bus to a higher layer and supplying, instead of said received signal, an idle signal to said

higher layer for an interval beginning with an end timing of a packet transmitted from said higher layer to said bus until said interval corresponds to the turnaround time, said idle signal indicating that the network node is in an idle state.

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